

Rule 1186

Confined Animal Facilities¹

(A) General

(1) Purpose

- (a) The purpose of this rule is to limit emissions of Volatile Organic Compounds (VOC) from Confined Animal Facilities (CAF).

(2) Applicability

- (a) The provisions of this rule shall apply to any CAF.

(3) Exemptions

- (a) Except for the recordkeeping requirements of subsection (D)(1), the provisions of this rule shall not apply to a CAF, which remains at all times below all of the thresholds in Table 1: *[Derived from CCR Title 17, Division 1, Chapter 1, Subchapter 2.7, §86500(a)]*

Table 1
CAF Thresholds for Regulation

Livestock Category	Threshold
Dairy	1,000 milk-producing cows
Beef Feedlots	3,500 beef cattle
Other Cattle Facility	7,500 calves, heifers, or other cattle
Chicken	650,000 chickens other than laying hens
Chicken	650,000 laying hens
Duck	650,000 head
Turkey	100,000 head
Swine Facility	3,000 head
Horses Facility	2,500 head
Sheep and Goat Facilities	15,000 head of sheep, lambs or goats

¹ The majority of this rule is derived from SJVUAPCD Rule 4570 – *Confined Animal Facilities* (adopted 06/15/06) unless otherwise indicated.

Any Livestock Facility not listed above	30,000 head
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(b) This rule does not exempt the Owner/Operator from any other District regulations.

(c) Loss of Exemption

Owners/Operators of a CAF that is exempt pursuant to subsection (A)(3) and which becomes subject to this rule through the loss of exemption status shall comply with all applicable provisions of this rule no later than the date the exemption status is lost.

(B) Definitions

[Removed Class II Mitigation Measures, definition not used]

- (1) “Aerobic Digester” – A basin or tank designed, constructed, maintained, and operated for the aerobic treatment of liquid or solid Animal Waste that is approved by the APCO, CARB, and USEPA.
- (2) “Aerobic Lagoon” – A Lagoon designed, constructed, maintained, and operated in accordance with the applicable standards for Aerobic Lagoons in the NRCS California Field Office Technical Guide Code 359 or other applicable standards approved by the APCO, CARB, and USEPA.
- (3) “Air Pollution Control Officer (APCO)” - The person appointed to the position of Air Pollution Control Officer of the District pursuant to the provisions of California Health & Safety Code §40750, and his or her designee. *[Derived from Rule 1301 – Definitions]*.
- (4) “Alternative VOC Mitigation Measure” – A VOC Mitigation Measure that is determined by the APCO, CARB, and USEPA to achieve reductions that are equal to or exceed the reductions that would be achieved by other VOC Mitigation Measures listed in this rule that Owners/Operators could choose to comply with rule requirements.
- (5) “Anaerobic Digester” – A basin or tank designed, constructed, maintained, and operated for the Anaerobic Treatment of liquid or solid Animal Waste in accordance with the applicable standards for Anaerobic Digesters in the NRCS California Field Office Technical Guide Code 359 or other applicable standards approved by the APCO, CARB, and USEPA.
- (6) “Anaerobic Treatment” – The decomposition of organic matter by microbes in the absence of oxygen. During this process four main reactions occur. In the first reaction, complex organic materials (e.g. carbohydrates, proteins, and fats) are hydrolyzed to form soluble organic molecules (e.g. sugars, amino acids, and fatty acids). In the second reaction, soluble organic molecules ferment to form acetic acid, formic acid, and volatile fatty acids. In the third reaction, volatile fatty acids

undergo acetogenesis to form acetic acid and formic acid. In the fourth reaction, acetic acid and formic acid undergo methanogenesis to form methane and carbon dioxide.

- (7) “Anaerobic Treatment Lagoon” – A Lagoon designed, constructed, maintained, and operated in accordance with the standards for anaerobic Lagoons in the NRCS California Field Office Technical Guide Code 359 or other applicable standards approved by the APCO, CARB, and USEPA.
- (8) “Animal Waste” – Any animal excretions and mixtures containing animal excretions, except for material meeting the definition of Separated Solids.
- (9) “Beef Feedlot” – A CAF that is primarily concerned with raising cattle for the production of meat for commercial purposes.
- (10) “California Air Resources Board (CARB)” – The California State Air Resources Board the powers and duties of which are described in Part 2 of Division 26 of the California Health & Safety Code (commencing with section 39500). *[Derived from Rule 1301 – Definitions]*
- (11) “Certified Nutritionist” – A nutritionist certified by the American Registry of Professional Animal Scientists or who is approved by the APCO, CARB, and USEPA.
- (12) “Confined Animal Facility (CAF)” – A Facility where animals are Corralled, penned, or otherwise caused to remain in restricted areas for commercial purposes and primarily fed by a means other than grazing for at least forty-five (45) Days in any twelve (12) month period.
- (13) “Contiguous or Adjacent Property” – Two or more parcels of land with a common boundary or separated solely by a public or private roadway, or other public or private right-of-way. *[Derived from Rule 1301 – Definitions]*.
- (14) “Corral/Drylot/Exercise Pen/Loafing Barns/Open Lots” – An area where animals are confined without separate stalls in which the animals may rest.
- (15) “Dairy” – A CAF that is primarily concerned with the production of milk, butter, or cheese for commercial purposes.
- (16) “Day” – A twenty-four (24) hour period beginning at 12:00 a.m. and ending at midnight.
- (17) “District” – The Mojave Desert Air Quality Management District the geographical area of which is described in District Rule 103. *[Derived from Rule 1301 §(S).]*
- (18) “Dry Animal Waste/Dry Separated Solids” – Animal Waste with less than fifty (50) percent, by weight, moisture.

- (19) “Emission Mitigation Plan” – A document that lists and describes all VOC Mitigation Measures to be implemented at the CAF. The description shall be sufficiently detailed, such that another person could duplicate the measure by reading the description (e.g. for feed additives the description shall include the name of the additive used and the amount of the additive used).
- (20) “Facility” – A source or group of air pollution sources located on one or more Contiguous or Adjacent Properties, or separated only by a public right-of-way and are under common ownership, common control, or operated by entities that are under common ownership or control. A Facility includes, but is not limited to, all barns, buildings, coops, Corrals, feed storage areas, installations, milking parlors, structures, and systems for the collection, distribution, storage, and treatment of Animal Waste on the properties.
- (21) “Feed Bunk” – The area where feed is placed for the animals to eat the feed.
- (22) “Freestall” – A structure for housing animals in which the animals are contained in pens under a roof and have free access to Feed Bunks, waterers, and stalls for resting.
- (23) In-Corral Mounds – Mounds of animal waste and/or soil which are constructed, designed, maintained, and operated by the Owner/Operator to allow animals to have a dry area to lay and rest during the wet season.
- (24) “Lagoon” – A basin constructed, maintained, and operated to store and treat Animal Waste. This does not include basins primarily used to collect runoff and storm water.
- (25) “Land Incorporate” – Use of a method, such as tilling, injecting, or plowing, that covers Animal Waste with soil.
- (26) “Licensed Veterinarian” – A veterinarian licensed by the state of California or a veterinarian that is approved by the APCO, CARB, and USEPA.
- (27) “Livestock” – Any domesticated animal kept or raised for the production of eggs, milk, or meat.

[Definition not used.]

[See VOC Mitigation Measure]

- (28) “NRC” – The National Research Council of the United States of America.
- (29) “NRCS” – The Natural Resource Conservation Service operated under the United State Department of Agriculture.
- (30) “Other Cattle Facility” – A CAF housing cattle that does not meet the definition of a Beef Feedlot or Dairy.

- (31) “Owner/Operator” – Any person who owns, leases, supervises, or operates a CAF or equipment on such a Facility.
- (32) “Phototrophic Lagoon” – A Lagoon where at least ten (10) percent of the bacteria in the Lagoon are photosynthetic bacterium; the bacteriochlorophyll *a* concentration is above 1081 µg/L; or that is designed, constructed, maintained, and operated according to other standards approved by the APCO, CARB, and USEPA.
- (33) “Poultry” – Any domesticated birds kept or raised for eggs or meat.
- (34) “Separated Solids” – Solid removed from Animal Waste by a Solid Separator System.
- (35) “Shade Structure” – A structure designed, constructed, installed, maintained, and operated to provide shade for Livestock.
- (36) “Solid Separator System” – A system for separating solid Animal Waste from liquid Animal Waste products that is designed, installed, constructed, operated, and maintained in accordance with the applicable standards in California NRCS Field Office Technical Guide Code 632 or other applicable standards approved by the APCO, CARB, and USEPA. Solid Separator Systems may include, but are not limited to, flat belt separators, roller press separators, vibrating screen separators, stationary inclined screen separators, and settling basins.
- (37) “Storage Pond” – A basin constructed, maintained, and operated, to store Animal Waste, after it has been treated or processed in a Lagoon.
- (38) “USEPA” – The United States Environmental Protection Agency or any person designated to act on its behalf.
- (39) “VOC Control Device” – A device, into which captured air is vented, that reduces the VOC content in the air prior to the air being released into the atmosphere.
- (40) “VOC Mitigation Measure” – An activity, practice, or technology that reduces VOC air pollutants emitted by or associated with a CAF.
- (41) “Volatile Organic Compounds (VOC)” – Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions other than those compounds listed in 40 CFR 51.100(s)(1).
- (42) “Weatherproof Covering/Storage Structure” – A covering, such as a building or tarp, constructed, installed, maintained, and operated such that the material inside or underneath the covering is not moved or moistened by weather conditions outside of the covering including, but not limited, to wind and rain. The covering shall be maintained according to manufacturer recommendations and adhere applicable standards in NRCS California Field Office Technical Guide Codes 313 or other applicable standards approved by the APCO, CARB, and USEPA.

(43) “Year” – Any consecutive 365-Day period.

(C) Requirements

(1) General Requirements

- (a) Owners/Operators of any CAF shall submit, for approval by the APCO, a permit application for each CAF.
- (b) Owners/Operators of any CAF shall include an Emission Mitigation Plan within the permit application that lists the VOC Mitigation Measures that the Facility will use to comply with all applicable requirements of Appendix “A” and subsections (C)(1)(f) through (C)(1)(h).
- (c) Owners/Operators of any CAF shall implement all VOC Mitigation Measures, as contained in the permit application, no later than 365 Days from the permit issuance date.
- (d) Notwithstanding subsection (C)(1)(c), an Owner/Operator may temporarily suspend use of VOC Mitigation Measure(s) provided all of the following requirements are met:
 - (i) It is determined by a Licensed Veterinarian, Certified Nutritionist, California Department of Food and Agriculture, or United States Department of Agriculture that any VOC Mitigation Measure being suspended is detrimental to animal health;
 - (ii) The Owner/Operator notifies the District, within forty-eight (48) hours of the determination that the VOC Mitigation Measure is being temporarily suspended, the specific health condition requiring the VOC Mitigation Measure to be suspended, and the duration that the measure must be suspended for animal health reasons;
 - (iii) The VOC Mitigation Measure is not suspended for longer than recommended by the Licensed Veterinarian or Certified Nutritionist for animal health reasons;
 - (iv) If such a situation exists, or is expected to exist for longer than thirty (30) Days, the Owners/Operators shall, within that thirty (30) Day period, submit a new Emission Mitigation Plan designating a VOC Mitigation Measure to be implemented in lieu of the VOC Mitigation Measure that was suspended; and
 - (v) The APCO, CARB, and USEPA approve the temporary suspension of the VOC Mitigation Measure for the time period requested by the Owner/Operator.

- (e) Notwithstanding subsections (C)(1)(c) and (C)(1)(d), Poultry CAF Owners/Operators may temporarily suspend utilization of a feed VOC Mitigation Measure(s) for Poultry producing eggs for commercial purposes provided all of the following requirements are met:
- (i) The Owners/Operators notify the District, within forty-eight (48) hours of the determination that a VOC Mitigation Measure is being temporarily suspended and the duration for which the VOC Mitigation Measure must be suspended for the animal to molt (shed a significant portion of their feathers); *[reordered section (i) and (ii)]*
 - (ii) It is determined by a Certified Nutritionist or Licensed Veterinarian that suspension of the VOC Mitigation Measure is necessary for the animal to molt;
 - (iii) If such a situation exists, or is expected to exist for longer than twenty (20) Days, the Owners/Operators shall, within that twenty (20) Day period, submit a new Emission Mitigation Plan designating a VOC Mitigation Measure to be implemented in lieu of the VOC Mitigation Measure that was suspended;
 - (iv) The VOC Mitigation Measure is not suspended for longer than recommended by the Licensed Veterinarian or Certified Nutritionist for the animal to molt; and
 - (v) The APCO, CARB, and USEPA approve the temporary suspension of the VOC Mitigation Measure for the time period requested by the Owner/Operator.
- (f) Owners/Operators may substitute a VOC Mitigation Measure from one (1) Facility category type listed in Appendix “A” for a VOC Mitigation Measure for another Facility category type, provided it is demonstrated that the substitution would result in equal or greater emission reductions. Substituted VOC Mitigation Measures shall be requested as part of the requirements of section (D) and shall be included as permit requirements.
- (g) CAF Facilities that are not Dairies, Beef Feedlots, other cattle Facilities, swine Facilities, or Poultry Facilities shall submit an Emission Mitigation Plan demonstrating reductions of at least thirty (30) percent or adhere to all of the requirements specified in Appendix “A” for the appropriate Facility category type.
- (h) CAF Facilities categories listed in Appendix “A” may submit an Emission Mitigation Plan demonstrating Facility wide reductions of at least thirty (30) percent in lieu of complying with all of the requirements specified in Appendix “A” for the appropriate Facility category type.

(2) Administrative Requirements

- (a) Owners/Operators of any Facility shall submit an authority to construct application or permit to operate application that includes the following:
 - (i) The name, business address, and phone number of the Owners/Operators responsible for the preparation and the implementation of the VOC Mitigation Measures listed in the permit.
 - (ii) The signature of the Owners/Operators attesting to the accuracy of the information provided and adherence to implementing the activities specified in the CAF Plan at all times and the date that the application was signed.
 - (iii) An Emission Mitigation Plan including a list of all VOC Mitigation Measures chosen to comply with Rule 1186 requirements and the location of these VOC Mitigation Measures.
 - (iv) The number of animals at the Facility in each production stage.
 - (v) Any other information necessary for the District to prepare an emission inventory of all regulated air pollutants emitted from the Facility, as determined by the APCO.
- (b) Owners/Operators shall submit an update of the permit application to the District for review at least once every five (5) Years. The update shall reflect changes in the operation and feasibility of VOC Mitigation Measures.
- (c) The District shall act upon the authority to construct application or permit to operate application within six (6) months of receiving a complete application.

(D) Monitoring and Records

(1) Recordkeeping

The following records shall be kept and maintained for a minimum of five (5) Years and shall be made available to the APCO, CARB, and USEPA upon request:

- (a) Owners/Operators claiming any exemption pursuant to subsection (A)(3) shall maintain records demonstrating that the CAF meets the exemption criteria of this rule,
- (b) Owners/Operators subject to the requirements of section (C) shall maintain:

- (i) Copies of all of the Facility's permits;
- (ii) Copies of all laboratory tests, calculations, logs, records, and other information required to demonstrate compliance with all applicable requirements of this rule, as determined by the APCO, CARB, USEPA;
- (iii) Records of the number of animals of each species and production group at the Facility on the permit issuance date. Quarterly records of any changes to this information shall also be maintained, (e.g. Dairy Herd Improvement Association records, animal inventories done for financial purposes, etc.);
- (iv) Feed Content: Owners/Operators shall maintain records of feed content, formulation, quantity of feed additive utilized, sufficient to demonstrate compliance with any VOC Mitigation Measures chosen (e.g. feed sheets);
- (v) Feed Processing: Owners/Operators shall maintain records demonstrating that feed was fed to animals (e.g. put in Feed Bunks) or disposed of within forty-eight (48) hours of grinding and mixing sufficient to demonstrate compliance with any VOC Mitigation Measures chosen;
- (vi) Feed Removal: Owners/Operators shall maintain records sufficient to demonstrate that feed was removed and disposed of in compliance with any VOC Mitigation Measures chosen;
- (vii) Silage: Owners/Operators shall maintain records demonstrating that silage was covered in compliance with any VOC Mitigation Measures chosen (i.e. invoices demonstrating that silage covers were installed and maintained at the Facility and maintenance records for repair or replacement of damaged covers);
- (viii) Leachate: Owners/Operators choosing a VOC Mitigation Measure relating to leachate collection shall maintain records demonstrating that the leachate was collected either by an active or passive system and the system was maintained in a manner approved by the APCO, CARB, and USEPA (such as design specification for the system and a maintenance checklist for inspections and repairs);
- (ix) Housing Cleaning: Owners/Operators shall maintain records sufficient to demonstrate management practices listed in the Facility's Emission Mitigation Plan were performed and manure height limits in the Facility's Emission Mitigation Plan were not exceeded. This may be a log when Owners/Operators initial that they performed all applicable practices and visually inspected manure buildup to ensure it does not exceed the height limits;
- (x) Floats: Owners/Operators choosing VOC Mitigation Measures relating to floats on troughs shall maintain sufficient records to demonstrate that the floats are maintained in a manner to ensure that water does not intentionally or unintentionally spill onto an earthen ground;
- (xi) Lime, Thymol, and Eugenol: Owners/Operators choosing VOC Mitigation Measures relating to lime, thymol, or eugenol shall

- maintain records including manufacture product application recommendations and product application records that demonstrate lime, thymol, or eugenol was applied in accordance with manufacturer recommendations;
- (xii) Animal Waste Depth: Owners/Operators shall measure and record the depth of manure at its deepest depth at least one every ninety (90) Days in each area that they chose a VOC Mitigation Measure limiting Animal Waste depth;
 - (xiii) Corral Maintenance: Owners/Operators shall maintain records sufficient to demonstrate all housing management practices (including but not limited to harrowing and sloping of corrals) used to comply with rule requirements are implemented as required in the rule;
 - (xiv) Records, such as design specifications, demonstrating that any Shade Structures used to comply with rule requirements meet the required standards;
 - (xv) Records such as design specifications and maintenance logs demonstrating that any roof runoff structures used to comply with rule are in compliance with applicable standards in NRCS Field Office Technical Guide Code 558 or other applicable standards approved by the APCO, CARB, and USEPA;
 - (xvi) Records, including a copy of the manufacturer's recommendations, that demonstrate any Animal Waste additives used to comply with rule requirements are administered in accordance with manufacturer's specifications;
 - (xvii) Records, such as manufacturer warranties or other documentation, demonstrating that any covers used, such as Lagoon covers, Weatherproof Covering over solid Animal Waste, and Weatherproof Covering over Separated Solids, are installed, used, and maintained in accordance with manufacturer recommendations and applicable standards listed in NRCS Field Office Technical Guide Code 313 or 367, or any other applicable standard approved by the APCO, CARB, and USEPA;
 - (xviii) Records, such as design specifications and maintenance logs, demonstrating that any Anaerobic Digesters used to comply with rule requirements meetings the standards in NRCS Field Office Technical Guide Code 366 or 365 or other applicable standards approved by the APCO, CARB, and USEPA;
 - (xix) Records, such as design specifications, demonstrating that any Aerobic, Anaerobic, or mechanically aerated Lagoon used to comply with rule requirements meets the dimension requirements listed in the NRCS Field Office Technical Guide Code 359;
 - (xx) Records, such as calculations, demonstrating that any aerobic, anaerobic, or mechanically aerated Lagoon used to comply with rule requirements meets the dimension requirements listed in the NRCS Field Office Technical Guide Code 359; and
 - (xxi) Records, such as design specifications and maintenance logs, demonstrating that any solid separation system complies with the

applicable standards in NRCS Field Office Technical Guide 632 or other applicable standard approved by the APCO, CARB, and USEPA.

(2) Compliance Testing, Monitoring, and Calculations

- (a) Owners/Operators shall conduct an initial source test of all VOC Control Devices used to comply with rule requirements not later than six (6) months after the date of installation, and at least once every twelve (12) months thereafter unless the APCO, CARB, and USEPA determines more frequent testing is required to demonstrate compliance with rule requirements. *[Class II mitigation measures removed which included ASPs]*
- (b) Owners/Operators using the following VOC Mitigation Measures in their Emissions Mitigation Plan shall perform the following tests no later than six (6) months after the date of issuance of the permit, and at least once every twelve (12) months thereafter unless the APCO, CARB and USEPA determines more frequent testing is required to demonstrate compliance with rule requirements:
 - (i) Phototrophic Lagoons shall be tested for bacteria concentration, bacteriochlorophyll concentration, or a surrogate parameter determined by the APCO, CARB, and USEPA.
 - (ii) Aerobic Lagoons shall be tested for dissolved oxygen content.
 - (iii) Mechanically Aerated Lagoons shall be tested for biological oxygen demand.
 - (iv) Lagoon pH
- (c) Owners/Operators shall test any other parameters determined necessary by the APCO, CARB, and USEPA to demonstrate compliance with rule requirements as frequently as determined necessary by the APCO, CARB, and USEPA.

(3) Test Methods

Owners/Operators shall conduct applicable testing using the following methods or any other alternative test method approved by the APCO, CARB, and USEPA. test methods referenced shall be the latest approved version.

- (a) EPA Method 405.1 – Biological Oxygen Demand;
- (b) South Coast Air Quality Management District (SCAQMD) Method 25.3 - Non-methane, Non-ethane Organic Compound Emissions from Clean Fueled Combustion Sources;
- (c) SCAQMD Method 1.1 – Sample and Velocity Traverses for Stationary Sources;

- (d) SCAQMD Method 1.2 – Sample and Velocity Traverses for Stationary Sources with Small Stacks or Ducts;
 - (e) SCAQMD Method 2.1 – Determination of Stack Gas Velocity and Volumetric Flow Rate (S-Type Pitot Tube);
 - (f) SCAQMD Method 2.2 – Direct Measurement of Gas Volume Through Pipes and Small Ducts;
 - (g) SCAQMD Method 2.3 – Determination of Gas Velocity and Volumetric Flow Rate;
 - (h) Dissolved Oxygen – EPA Method 360.1 or 360.2;
 - (i) Moisture – Test Methods for the Examination of Compost and Composting (TMECC) Method 3.09; and
 - (j) Organic Loading – Standard Methods of the Examination of Water and Wastewater Method 2540 G – Solids.
 - (k) pH – EPA Method 150.2
- (4) Compliance Schedule
- (a) Owners/Operators of existing or proposed Facilities shall submit an authority to construct application or permit to operate application prior to commencing operation or no later than sixty (60) Days after adoption of this rule, whichever is later, that complies with all applicable provisions of this rule.

[SIP:]

Appendix “A”
VOC Mitigation Measures List

1. CONFINED ANIMAL FACILITY - DAIRY

A. Owners/Operators shall incorporate *at least four (4)* of the following feed VOC Mitigation Measures:

1. Feed according to NRC guidelines.
2. Feed animals high moisture corn or steam-flaked corn and not feed animals dry rolled corn.
3. At least once every fourteen (14) Days remove feed from the area where animals stand to eat feed.
4. At least once every fourteen (14) Days remove spilled feed from the area where equipment travels to place feed in the Feed Bunk.
5. Remove uneaten wet feed from Feed Bunks within twenty-four (24) hours of a rain event.
6. Feed or dispose of rations within forty-eight (48) hours of grinding and mixing rations.
7. Store grain in a Weatherproof Storage Structure from October through May.
8. Implement an Alternative VOC Mitigation Measure(s), not listed above.

B. Owners/Operators shall incorporate *at least one (1)* of the following feed Mitigation Measures:

1. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2. Collect leachate from the silage piles and send it to a waste treatment system such as a Lagoon at least once every twenty-four (24) hours.
3. Implement an Alternative Mitigation Measure(s), not listed above.

C. Owners/operators shall incorporate *at least one (1)* of the following Mitigation Measures in each milk parlor:

1. Flush or hose milk parlor immediately prior to, immediately after, or during each milking.
2. Implement an Alternative Mitigation Measure(s), not listed above.

D. Owners/operators housing animals in Freestalls shall incorporate *at least two (2)* of the following Mitigation Measures in each Freestall barn.

1. Vacuum or scrape Freestall flush lanes immediately prior to, immediately after, or during each milking.
2. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) Days.

3. Use non-Animal Waste-based bedding and non-Separated Solids based bedding for at least ninety (90) percent of the bedding material, by weight, for Freestalls (e.g. rubbermats, almond hulls, sand, or waterbeds).
4. Remove Animal Waste that is not dry from individual cow Freestall beds at least once every fourteen (14) Days.
5. Rake, harrow, scrape, or grade bedding in Freestalls at least once every fourteen (14) Days.
6. Use a Dry Animal Waste handling system, such as scraping, instead of a liquid Animal Waste handling system, such as a flush system
7. Have no animals in Exercise Pens, Corrals, or Drylots at any time.
8. Flush Freestalls more frequently than the milking schedule. Implement an Alternative Mitigation Measure(s), not listed above.

E. Owners/operators housing animals in Corrals shall incorporate *at least six (6) of the following Mitigation Measures in each Corral where animals have been housed in the last thirty (30) Days.*

1. Clean Animal Waste from Corrals at least four (4) times per Year with at least sixty (60) Days between cleaning, or clean Corrals at least once between April and July and at least once between October and December, or clean concreted areas such that the depth of Animal Waste does not exceed twelve (12) inches at any point or time, except for In-Corral Mounding.
2. Manage Corrals such that the Animal Waste depth in the Corral does not exceed twelve (12) inches at any time or point, except for In-Corral Mounding.
3. Knockdown fence line Animal Waste build-up prior to it exceeding a height of twelve (12) inches at any time or point.
4. Scrape or flush feed aprons in Corrals at least once every seven (7) Days.
5. Slope the surface of the pens at least three (3) percent where the available space for each animal is four hundred (400) square feet or less. Slope the surface of the pens at least 1.5 percent where the available space for each animal is more than four hundred (400) square feet per animal.
6. Maintain Corrals to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm; or
7. Maintain Corrals and Drylots so that there are not indentions in the surface where puddles may form and remain for more than forty-eight (48) hours.
8. Install floats on the troughs or use another method approved by the APCO, CARB, and USEPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
9. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) Days.
10. Harrow, rake, or scrape pens sufficiently to maintain a dry surface.
11. Install no Shade Structures in the Corrals, or
12. Install Shade Structures such that they are constructed with a light permeable roofing material, or
13. Install all Shade Structures uphill of any slope in the Corral.

14. Implement an Alternative VOC Mitigation Measure(s), not listed above.

F. Owners/operators that handle or store solid Animal Waste or Separated Solids outside the animal housing shall incorporate *at least two (2)* of the following VOC Mitigation Measures:

1. Cover Dry Animal Waste piles outside the pens with a Weatherproof Covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
2. Cover Dry Separated Solids outside the pens with a Weatherproof Covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
3. Remove Animal Waste from the Facility within seventy-two (72) hours of removal from the pens or Corrals.
4. Remove Separated Solids from the Facility within seventy-two (72) hours of separation with a solid separation system, or store no Separated Solids outside of Anaerobic Digesters or Aerobic Digesters.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

G. Owners/operators that handle Animal Waste in a liquid form shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Manage the Facility such that there are no Lagoons at the Facility.
2. Use Phototrophic Lagoon, or use an Anaerobic Treatment Lagoon that is not mechanically aerated.
3. Remove solids from the waste system with a Solid Separator System, prior to the waste entering the Lagoon.
4. Maintain Lagoon pH between 6.5 and 7.5.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

H. Owners/operators who land apply Dry or liquid Animal Waste to crop land on the Facility shall incorporate *at least two (2)* of the following VOC Mitigation Measures:

1. Land Incorporate all solid Animal Waste within seventy-two (72) hours of removal from animal housing.
2. Only apply solid or liquid Animal Waste that has been treated with an Anaerobic or Aerobic Lagoon or Digester system.
3. Allow liquid Animal Waste to stand in the fields no more than twenty-four (24) hours after irrigation, or apply no liquid Animal Waste.
4. Apply no solid Animal Waste with a moisture content of more than fifty (50) percent, or apply no solid Animal Waste.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

2. CONFINED ANIMAL FACILITY – BEEF FEEDLOT

A. Owners/operators shall incorporate *at least five (5)* of the following feed VOC Mitigation Measures:

1. Feed according to NRC guidelines.
2. Feed animals with high moisture corn or steam-flaked corn and not feed animals dry rolled corn.
3. At least once every fourteen (14) Days remove feed from the area where animals stand to eat.
4. At least once every fourteen (14) Days remove spilled feed from the area where equipment travels to place feed in the Feed Bunk.
5. Remove uneaten wet feed from Feed Bunks within twenty-four (24) hours of a rain event.
6. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
7. Store grain in a Weatherproof Storage Structure from October through May.
8. Implement an Alternative VOC Mitigation Measure(s), not listed above.

B. Owners/operators shall incorporate *at least one (1)* of the following feed VOC Mitigation Measures:

1. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2. Collect leachate from the silage piles and send it to a waste treatment system such as a Lagoon at least once every twenty-four (24) hours.
3. Implement an Alternative VOC Mitigation Measure(s), not listed above.

C. Owners/operators shall incorporate *at least seven (7)* of the following VOC Mitigation Measures in each of the animal housing structures (e.g. each Corral, pen, etc.):

1. Clean Animal Waste from pens at least once between April and July and at least once between October and December of each Year.
2. Manage pens such that the Animal Waste depth in the pen does not exceed eighteen (18) inches at any time or point, except for In-Corral Mounds.
3. Knockdown fence line Animal Waste build-up prior to it exceeding a height of twelve (12) inches at any time or point.
4. Slope the surface of the pens at least three (3) percent where the available space for each animal is four hundred (400) square feet or less. Slope the surface of the pens at least 1.5 percent where the available space for each animal is more than four hundred (400) square feet per animal.
5. Maintain pens to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm; or
6. Prior to placing cattle in pens, scrape or smooth the pen floors such that there are not indentions where puddles may form and remain for more than forty eight (48) hours.
7. Install floats on the troughs or use another method approved by the APCO, CARB, and USEPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
8. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) Days.

9. Harrow, rake, or scrape pens sufficiently to maintain a dry surface, unless the Corrals have not held animals in the last thirty (30) Days.
10. Clean the area where the animals stand to consume feed such that the depth of Animal Waste in this area does not exceed twelve (12) inches at any time or point.
11. Use a dry Animal Waste handling system, such as scraping, instead of a liquid Animal Waste handling system, such as a flush system.
12. Install no Shade Structures in the Corrals, or install shade structures such that they are constructed with a light permeable roofing material, or install Shade Structures such that situated so that they are uphill of any slope in the Corral.
13. Implement an Alternative VOC Mitigation Measure(s), not listed above.

D. Owners/operators that handle or store solid Animal Waste or Separated Solids outside the animal housing shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Cover Dry Animal Waste piles outside the pens with a Weatherproof Covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering, or store no Dry Animal Waste piles outside the pens from October through May
2. Remove Animal Waste from the Facility within seventy-two (72) hours of removal from the pens.
3. Implement an Alternative VOC Mitigation Measure(s), not listed above.

E. Owners/Operators that handle Animal Waste in a liquid form shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Manage the Facility such that there are no Lagoons at the Facility.
2. Use Phototrophic Lagoon, or use an Anaerobic Treatment Lagoon that is not mechanically aerated.
3. Remove solids from the waste system with a Solid Separator System, prior to the waste stream entering the Lagoon.
4. Maintain Lagoon pH between 6.5 and 7.5.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

F. Owners/Operators who land apply Dry or liquid Animal Waste to crop land on the Facility shall incorporate *at least (2) two* of the following VOC Mitigation Measures:

1. Land Incorporate all Animal Waste within seventy-two (72) hours of removal from animal housing.
2. Only apply solid or liquid Animal Waste that has been treated with an Anaerobic or Aerobic Lagoon or Digester system.
3. Allow liquid Animal Waste to stand in the fields no more than twenty-four (24) hours after irrigation, or apply no liquid Animal Waste.
4. Apply no solid Animal Waste with a moisture content of more than fifty (50) percent, or apply no solid Animal Waste.

5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

3. CONFINED ANIMAL FACILITY – OTHER CATTLE

A. Owners/Operators shall incorporate *at least five (5)* of the following feed and silage VOC Mitigation Measures:

1. Feed according to NRC guidelines.
2. Feed animals high moisture corn or steam-flaked corn and not feed animals with dry rolled corn.
3. At least once every fourteen (14) Days remove feed from the area where animals stand to eat feed.
4. At least once every fourteen (14) Days remove spilled feed from the area where equipment travels to place feed in the Feed Bunk.
5. Remove uneaten wet feed from Feed Bunks within twenty-four (24) hours of a rain event.
6. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
7. Store grain in a Weatherproof Storage Structure from October through May.
8. Implement an Alternative VOC Mitigation Measure(s), not listed above.

B. Owners/Operators shall incorporate *at least one (1)* of the following feed VOC Mitigation Measures:

1. Cover the horizontal surface of silage piles, except for the area where feed is being removed from the pile.
2. Collect leachate from the silage piles and send it to a waste treatment system such as a Lagoon at least once every twenty-four (24) hours.
3. Implement an Alternative VOC Mitigation Measure(s), not listed above.

C. Owners/Operators shall incorporate *at least seven (7)* of the following VOC Mitigation Measures in each animal housing structure (e.g. Corral, Freestalls, pens, etc.):

1. Vacuum, scrape, or flush Freestalls at least once every fourteen (14) Days (only applies to Facilities with Freestalls).
2. Inspect water pipes and troughs and repair leaks at least once every fourteen(14) Days.
3. Use non-Animal Waste-based bedding and non-Separated Solids based bedding for at least ninety (90) percent of the bedding material, by weight, for Freestalls (e.g. rubber mats, almond hulls, sand, or waterbeds).
4. Remove Animal Waste that is not dry from individual cow Freestall beds daily (only applies to Facilities with Freestalls).
5. Rake, harrow, scrape, or grade bedding in Freestalls at least once every fourteen (14) Days (only applies to Facilities with Freestalls).
6. Use a Dry Animal Waste handling system, such as scraping, instead of a liquid Animal Waste handling system such as flushing.
7. Have no animals in Exercise Pens, Corrals, or Drylots at any time.

8. Clean Animal Waste from Corrals and pens at least once between April and July and at least once between October and December of each Year.
9. Manage pens such that the Animal Waste depth in the pen does not exceed eighteen (18) inches at any time or point, except for In-Corral Mounds.
10. Knockdown fence line Animal Waste build-up prior to it exceeding a height of twelve (12) inches at any time or point.
11. Scrape or flush feed aprons in all Corrals at least once every seven (7) Days.
12. Slope the surface of the pens at least three (3) percent where the available space for each animal is four hundred (400) square feet or less. Slope the surface of the pens at least 1.5 percent where the available space for each animal is more than four hundred (400) square feet per animal.
13. Maintain pens and Corrals to ensure drainage and prevent water from standing more than forty-eight (48) hours after a storm, or prior to placing cattle in pens or Corrals, scrape or smooth the pen floors such that there are not indentions where puddles may form and remain for over forty-eight (48) hours.
14. Install floats on the troughs or use another method approved by the APCO, CARB, and USEPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto the earthen ground.
15. Harrow, rake, or scrape pens and Corrals sufficiently to maintain a dry surface, unless the pens have not held animals in the last thirty (30) Days.
16. Clean the area where the animals stand to consume feed such that the depth of Animal Waste does not exceed twelve (12) inches at any time or point.
17. Use a Dry Animal Waste handling system, such as scraping, instead of a liquid Animal Waste handling system such as a flush system.
18. Install no Shade Structures in the Corrals, or install Shade Structures such that they are constructed with a light permeable roofing material, or install Shade Structures such that situated so that they are uphill of any slope in the Corral.
19. Implement an Alternative VOC Mitigation Measure(s), not listed above.

D. Owners/Operators that handle or store solid Animal Waste or Separated Solids outside the animal housing shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Cover Dry Animal Waste piles outside the pens with a Weatherproof Covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering, or store no Dry Animal Waste piles outside of animal housing from October through May.
2. Remove Animal Waste from the Facility within seventy-two (72) hours of removal from the pens.
3. Implement an Alternative VOC Mitigation Measure(s), not listed above.

E. Owners/Operators that handle Animal Waste in a liquid form shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Manage the Facility such that there are no Lagoons at the Facility.
2. Use Phototrophic Lagoon, or use an Anaerobic Treatment Lagoon that is not mechanically aerated.
3. Remove solids from the waste system with a solid separator separation system.
4. Maintain Lagoon pH between 6.5 and 7.5.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above

F. Owners/Operators who land apply Dry or liquid Animal Waste to crop land on the Facility shall incorporate *at least two (2)* of the following VOC Mitigation Measures:

1. Land Incorporate all Animal Waste within seventy-two (72) hours of removal from animal housing.
2. Only apply Animal Waste that has been treated with an Anaerobic or Aerobic Lagoon or digester system.
3. Allow liquid manure to stand in the fields no more than twenty-four (24) hours after irrigation, or apply no liquid Animal Waste.
4. Apply no solid Animal Waste with a moisture content of more than fifty (50) percent, or apply no solid Animal Waste.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

4. CONFINED ANIMAL FACILITY - SWINE

A. Owners/Operators shall incorporate *at least five (5)* of the following feed and silage VOC Mitigation Measures:

1. Feed according to NRC guidelines.
2. Feed animals probiotics designed to improve digestion according to manufacturer recommendations.
3. Feed animals at least five (5) percent cellulose.
4. Feed animals a casein based diet.
5. Feed animals an amino acid supplemented diet with two (2) percent sucrose thermal oligosaccharide caramel.
6. Feed animals a diet with no more than ten (10) percent crude protein with supplemented lysine, threonine, tryptophan, and methionine.
7. Feed animals ten (10) ppm anthraquinone.
8. Remove spilled feed from the Facility at least once every fourteen (14) Days.
9. Remove uneaten wet feed from the housing within twenty-four (24) hours of a rain event.
10. Feed or dispose of rations within forty-eight (48) hour of grinding and mixing rations.
11. Store grain in a Weatherproof Storage Structure from October through May.
12. Implement an Alternative VOC Mitigation Measure(s), not listed above.

B. Owners/Operators shall incorporate *at least five (5)* of the following VOC Mitigation Measures in each animal housing unit:

1. Clean Animal Waste from the housing at least twice every fourteen (14) Days.
2. Manage pens such that the Animal Waste depth in the pen does not exceed eighteen (18) inches at any time or point.
3. Slope the surface of the pens at least three (3) percent where the available space for each animal is four hundred (400) square feet or less. Slope the surface of the pens at least 1.5 percent where the available space for each animal is more than four hundred (400) square feet per animal.
4. Install floats on the troughs or use drinkers that do not drip or another method approved by the APCO, CARB, and USEPA to ensure that the water in the troughs does not intentionally or unintentionally overflow or spill onto an earthen ground.
5. Inspect water pipes and troughs and repair leaks at least once every fourteen (14) Days.
6. Use a slatted floor system (slatted floors over deep pits or shallow flush alleys), with daily Animal Waste removal.
7. Implement an Alternative VOC Mitigation Measure(s), not listed above.

C. Owners/Operators that handle or store solid Animal Waste or Separated Solids outside the animal housing shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Cover Dry Animal Waste and Separated Solids outside the pens with a Weatherproof Covering from October through May except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
2. Remove Animal Waste from the Facility within seventy-two (72) hours of removal from the pens or Corrals.
3. Use a Dry Animal Waste handling system, such as stockpiles or solid land application, instead of a liquid system such as a flush system.
4. Implement an Alternative VOC Mitigation Measure(s), not listed above.

D. Owners/Operators that handle Animal Waste in a liquid form shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Manage the Facility such that there are no Lagoons at the Facility.
2. Use Phototrophic Lagoon, use an Anaerobic Treatment Lagoon.
3. Remove solids from the waste system with a Solid Separator System, prior to the waste entering the Lagoon.
4. Maintain Lagoon pH between 6.5 and 7.5.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

E. Owners/Operators who land apply Dry or liquid Animal Waste to crop land on the Facility shall incorporate *at least two (2)* of the following VOC Mitigation Measures:

1. Land Incorporate all solid Animal Waste within seventy-two (72) hours of removal from animal housing, only apply Animal Waste that has been treated with an Anaerobic or Aerobic Lagoon or Digester system.
2. Allow liquid Animal Waste to stand in the fields no more than twenty-four (24) hours after irrigation, or apply no liquid Animal Waste.
3. Apply no solid Animal Waste with a moisture content of more than fifty (50) percent, or apply no solid Animal Waste.
4. Implement an Alternative VOC Mitigation Measure(s), not listed above.

5. CONFINED ANIMAL FACILITY - POULTRY

A. Owners/Operators shall incorporate *at least five (5)* of the following feed VOC Mitigation Measures:

1. Feed according to NRC guidelines.
2. Feed animals probiotics designed to improve digestion according to manufacturer recommendations, or
3. Feed animals an amino acid supplemented diet to meet their nutrient requirements, or
4. Feed animals feed additives such as amylase, xylanase, and protease, designed to maximize digestive efficiency according to manufacturer recommendations.
5. Remove spilled feed from housing at least once every seven (7) Days.
6. Enclose grain in a Weatherproof Storage Structure from October through May.
7. Feed or dispose of feed within forty-eight (48) hour of grinding and mixing feed.
8. Use feed additives designed to reduce feed decomposition or oxidization (the process were one or more electrons are removed from a molecule).
9. Remove uneaten wet feed from the housing within twenty-four (24) hours of a rain event.
10. Implement an Alternative VOC Mitigation Measure(s), not listed above.

B. Each Poultry house shall incorporate *at least four (4)* of the following VOC Mitigation Measures:

1. Remove caked Animal Waste at least once every fourteen (14) Days.
2. Clean under Poultry cages at least once every fourteen (14) Days.
3. Use Poultry litter additives designed to reduce air emissions or moisture content in litter, such as aluminum sulfate or sodium bisulfate, according to manufacturer recommendations.
4. Use a dry housing cleaning method at all times, except when a wet cleaning method is required for animal health or biosecurity issues.
5. Use drinkers that do not drip.
6. Adjust the height, volume, and location of drinkers at least once every fourteen (14) Days.
7. Use no foggers in the house.

8. Only use fogger systems designed, operated and maintained according to manufacturer recommendations that provide water droplets with an average size of fifty (50) microns or less.
9. Slope the surface of the house at least three (3) percent where the available space for each animal is four hundred (400) square feet or less. Slope the surface of the house at least 1.5 percent where the available space for each animal is more than four hundred (400) square feet per animal.
10. Install mounds or berms up gradient to prevent the runoff of stormwater into pens (only an option for animals allowed to freely move between indoor housing structures and outdoor pens).
11. Inspect water pipes and drinkers and repair leaks at least once every fourteen (14) Days.
12. Maintain the roof structure and manage roof runoff in accordance with the applicable standards in NRCS Field Office Technical Guide Code 558 or other applicable standards approved by the APCO, CARB, and USEPA.
13. Implement an Alternative VOC Mitigation Measure(s), not listed above.

C. Owners/Operators that handle or store solid Animal Waste or Separated Solids outside the animal housing shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

- a. Remove all Animal Waste from the Facility within seventy-two (72) hours of removal from housing, or send all Animal Waste to a Lagoon within seventy-two (72) hours of removal from housing.
- b. Cover Animal Waste outside the housing with a Weatherproof Covering from October through May, except for times, not to exceed twenty-four (24) hours per event, when wind events remove the covering.
- c. Use a solid Animal Waste handling system in housing, such as stockpiles, solid land application, or a thin bed Animal Waste drying system, instead of a liquid system such as flushing, Animal Waste Storage Ponds, or Animal Waste treatment Lagoons.
- d. Implement an Alternative VOC Mitigation Measure(s), not listed above.

D. Owners/Operators that handle Animal Waste in a liquid form shall incorporate *at least one (1)* of the following VOC Mitigation Measures:

1. Manage the Facility such that there are no Lagoons at the Facility.
2. Use Phototrophic Lagoon, or use an Anaerobic Treatment Lagoon.
3. Remove solids from the waste system with a Solid Separator System, prior to the waste entering the Lagoon.
4. Maintain Lagoon pH between 6.5 and 7.5.
5. Implement an Alternative VOC Mitigation Measure(s), not listed above.

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